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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/882,138 | 06/15/2001 | Joseph P. Donahue | 45223/TJD/O125 | 9249 |
| 23363 | 7590 | 12/23/2004 | EXAMINER | |
| CHRISTIE, PARKER & HALE, LLP PO BOX 7068 PASADENA, CA 91109-7068 | | | | AMINI, JAVID A |
| ART UNIT | | PAPER NUMBER | | |
| | | 2672 | | |

DATE MAILED: 12/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/882,138 | DONAHUE ET AL. | |
| | Examiner | Art Unit | |
| | Javid A Amini | 2672 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 24 August 2004.

2a) This action is **FINAL**. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) _____ is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-37 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.

2. Certified copies of the priority documents have been received in Application No. _____.

3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____.

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 24, 2004 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 11, 12, 21, 24-27 and 33 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant in claims 4 and 21 discloses the buffer region sums to substantially full scale. But does not specify what parameters are involved to represent as a full scale.

Applicant in claims 11, 12, 24-27, 33 discloses the amplitude of the beam is modified by acoustic modulation. Applicant should explicitly specify what would be the phenomenon of modulation of an electromagnetic wave by an acoustic wave. Does Applicant calculate the noise?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-37 rejected under 35 U.S.C. 103(a) as being unpatentable over Takiguchi et al. (hereinafter referred as Takiguchi) and further in view of Komiya et al. (hereinafter referred as Komiya).

1. Claims 1, 19, 22, 28.

Takiguchi in fig. 1B illustrates the step of “A method for combining at least two adjacent image segments to form a larger composite image comprising”. Takiguchi in figs. 22 and 33 steps s2203-s2206 teaches the step of “establishing a first region of a photosensitive coated substrate in which a first image segment will be printed; establishing a second region of the photosensitive coated substrate in which a second image segment will be printed; defining a buffer region associated with both image segments;” Takiguchi in col. 26 lines 35-42 teaches the step of “printing, with a printing device, the first image segment and the buffer region onto a first area of the photosensitive coated substrate;” Examiner’s comment: it is obvious for printing with a printing device, and the image data are stored in the buffer region before transferring to the printing device. The printing device could be an ink jet, laser and dot matrix. Applicant should explicitly specify the boundaries (sizes) of the first image segment and the first area of the photosensitive-coated substrate, for example: a drum. Takiguchi in figs. 1A and 1B

illustrates synthesization ratio that covers the step of “modifying the intensity in the buffer region by a first ramp value”. The following step is not clear, why the printing device or the printer should be moving to a different location in order to print a second area of photosensitive-coated substrate. “moving at least one of the printing device and the photosensitive coated substrate relative to one another to print a second area of the photosensitive coated substrate”. The following steps hypothetically similar to the previous steps of printing the first image onto the first area “printing, with the printing device, the second image segment and the buffer region onto the second area of the photosensitive coated substrate; and modifying the intensity in the buffer region by a second ramp value”. Takiguchi’s invention relates to an image synthesization method for synthesizing a plurality of images (for example: two images), in which the image areas partially overlap each other (similar to the Applicant’s invention in fig. 2 overlapped buffer region), in order to create a single synthetic image. But does not explicitly specify a unique stitching method by creating a first buffer region in a first image segment in which the intensity of the pixels in the first buffer region is attenuated, a buffer region in a second image segment in which the intensity of the pixels in the second buffer region is attenuated, and then overlapping the buffer regions of the two image segments. However, Komiya’s invention relates to an image processing apparatus for forming either images of the parts of an object or images of an object, which are identical but different in color, and for combining the images into a wide high-resolution image of the object. Komiya in paragraph 0167 teaches the displacement-detecting circuit 24 comprises correlators’ 24a and 24b and a coefficient calculator 24c. The correlators’ 24a and 24b receive the image signals read from the frame memories 22 and 23 (similar to Applicant’s buffer region), respectively,

and perform correlation on the input image signals. The image signals, thus processed, are input to the coefficient calculator 24c. The calculator 24c detects the displacement of the overlap regions of the CMD imaging areas, i.e., the conversion factors R and S (similar to ramp value of Applicant's invention in fig. 2). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Komiya into Takiguchi in order to accomplish a low-cost color image processing apparatus which can form a high-resolution color image, even if its imaging devices are not positioned with high precision. Also incorporating an option of Takiguchi that a user can designate a matching point by carefully monitoring only a portion where image overlapping is performed. A user does not have to compare two images to designate a matching point, and the load imposed on a user can be reduced.

2. Claim 2.

A method according to claim 1 wherein the image segments are substantially overlapping in the buffer region. It is obvious, because every computing device has at least a buffer region.

3. Claims 3, 20.

A method according to claim 1 wherein the first ramp rate and the second ramp rate are opposite one another. Komiya in fig. 39 illustrates p1 and p2.

4. Claims 4, 21.

A method according to claim 1 wherein the intensity in the buffer region sums to substantially full scale. Komiya in paragraph 0152 indicates the number of pixels.

5. Claim 5.

A method according to claim 1 wherein the buffer region is represented by a number of pixels from the first image segment and a number of pixels from the second image segment. See Komiya's fig. 5A.

6. Claims 6-11.

wherein intensity in the buffer region is modified by modulating amplitude of a beam of electromagnetic radiation capable of exposing the photosensitive coated substrate. The step is obvious, because of the conversion between the intensity and the amplitude of a beam.

7. Claims 11, 12, 24-27, 33.

A method according to claim 6 wherein the amplitude of the beam is modified by acoustic modulation. Applicant should explicitly specify what would be the phenomenon of modulation of an electromagnetic wave by an acoustic wave. Does Applicant calculate the noise? Komiya in paragraph 0162 teaches about fixed Pattern Noises.

8. Claim 13.

A method according to claim 1 wherein the printing of the first and second image segments is achieved through a process selected from the group consisting of scanning a photosensitive coated substrate by a rotating polygon, rotating single facet mirror or rotating holographic scanner illuminated by the exposing radiation source. Takiguchi in fig. 28 step s1305 illustrates these steps.

9. Claims 14-18.

A method according to claim 1 wherein the printing of the first and second image segments is achieved through having a photosensitive coated substrate exposed by a fixed pattern array of individually segmented light sources. See Takiguchi 's abstract.

10. Claim 29.

A printing system according to claim 28 wherein the ramp rate is defined as the percentage of modulation per in-scan pixel. See Takiguchi's fig. 45 step s11. Also see Komiya in paragraph 0006.

11. Claim 30.

A printing system according to claim 28 wherein the intensity value is computed from the ramp rate and the initial value by an integrator. Komiya in paragraph 0189.

12. Claim 31.

A printing system according to claim 28 wherein the intensity value and digital pixel data are converted into analog data by a multiplier. Komiya in fig. 58 steps 144-146 and 137-139 covers the steps of this claim.

13. Claims 32 and 23.

A printing system according to claim 28 wherein a means for modulating intensity is amplitude modulation. Komiya in fig. 67 step 209.

14. Claim 34.

A printing system according to claim 28 wherein the means for modulating intensity is phase modulation. It is obvious because, it is a technique to transmit information using a sine wave carrier. The sine wave has its phase changed in accordance with the information to be transmitted.

15. Claim 35.

A printing system according to claim 28 wherein the means for modulating intensity is frequency modulation. It is obvious because, it is a form of modulation in which the frequency of the

modulated carrier wave is varied in proportion to the amplitude of the modulating wave. In this case the phase of the carrier varies with the integral of the modulating wave

16. Claim 36.

A printing system according to claim 28 wherein the means for modulating intensity is code domain modulation. See rejection of claims 34-35.

17. Claim 37.

A method according to claim 1 wherein the photosensitive coated substrate comprises a printing plate or drum. See claim 1 rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javid A Amini whose telephone number is 703-605-4248. The examiner can normally be reached on 8-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Javid A Amini

Examiner

Art Unit 2672

Javid Amini


JEFFREY A. BRIER
PRIMARY EXAMINER